

# INSTRUCTION MANUAL

## Orion® Video Capture Device

#52181



# ORION

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The Orion Video Capture Device enables any NTSC or PAL analogue video signal output from CCTV camera, DVD, DVR, VCR, Cablebox, Game Console or Camcorder to be displayed and recorded on any computer or Laptop with XP, Vista, Win7 or Mac OS X operating system installed.



**Figure 1.** USB Device and Software CD.

Video input can be from any Composite or SVideo signal.

The software CD includes video capture, video editing and movie format conversion software.

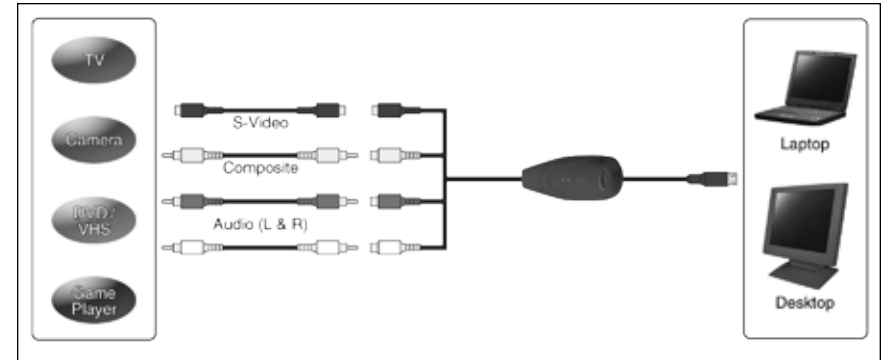
The Video Capture Device can be used for many purposes including:

- Live Viewing and recording of astronomy subjects via CCTV camera such as the Orion Starshoot Deep Space Video Camera or the Orion Starshoot Video Eyepiece.
- Live internet broadcasting via NightSkiesNetwork.
- Capturing and editing home movies from tape to digital formats such as DVD, Web and mobile devices.
- Capture and convert movies to other formats such as MPEG and AVI formats.
- Automated tracking and recording of meteors using HandyAVI or UFO capture software. (windows only software links on CD installer)

Please read this instruction manual before attempting to use the video capture device or install the software.

#### Parts List

- Orion Video Capture Device (USB)
- Dual Format Windows PC / Mac OS X CD-ROM
- Manual



**Figure 2.** Examples of supported Input devices.

## System Requirements

The following hardware is required:

- Recommended minimum memory size is 512 MB.
- Disk Space – 1GB or more recommended for saving Movies.
- Video Display – 800 X 600, 16-bit color or higher. 1024x768 or higher is recommended.
- Mouse (external or built-in)
- Internet connection required to display on-line help and download additional software
- High Speed USB 2.0 port

#### Windows



The Orion Video Capture device, device driver and Orion Capture software requires Windows XP, Vista or Win 7 running on a Pentium III™ or equivalent, or higher.

#### Mac OSX



The Orion Video Capture device, device driver and Orion Capture software requires Mac OS X 10.3 or above running on a Power PC G3/G4/G5 or Intel-Based Macintosh computers.

## Input Devices

A wide variety of Input devices are supported (**Figure 2**).



## Software and Driver Installation

Before the video capture device can be used the USB device driver and image capture software must be installed onto your computer.

*Note: If you have any antivirus software enabled, please disable it during the installation of the software.*

*Note: Do not connect the Video Capture Device to your computer yet.*



### Windows Users

Included on CD are the following:

- Orion AmCap – Capture Software
- VCR to DVD – Video editing software
- Blaze Video magic – Movie format conversion software

Please turn to the section titled “Windows installation and operation page”.



### Macintosh Users

Included software:

- EasyCap – Capture Software
- Video Impression – Video Editing and Conversion Software
- Lynkeos – Astronomical Post processing Software

Please turn to the section titled “Macintosh installation and operation page”.



### Windows Installation and Operation

Turn on your computer and allow the Windows operating system to load as normal. Insert the included CD-ROM into your computer's CD-ROM drive, and the Launcher will appear (**Figure 3**). This allows you to install the included USB Device driver, Orion capture software, VHS to DVD capture and editing software and Blaze video magic conversion software.

#### Video Capture Device Driver Installation

1. Click **Install Capture Device Driver**.



**Figure 3.** The Windows launcher provides an easy menu for software installation.

2. The **USB-TV Device Driver Software Installation** will start.
3. Follow on screen Installation instructions.
4. When installation is complete click the **Finish** button.
5. Restart computer.

Once the driver is installed, the computer will now recognize the Orion Video Capture Device whenever it is plugged in.

Please connect the Video Capture Device to your computer, you should see a window, select “Yes, this time only”, and then select “Install the software automatically (Recommended)”, select “Continue Anyway”. Wait for a moment until the system displays “Your new hardware is installed and ready to use”.

#### Verify Device Driver Installation

You will now need to check that the drivers are installed correctly.

1. Right Click on My Computer
2. Left Click on properties.
3. Click on Hardware tab and then Device Manager.

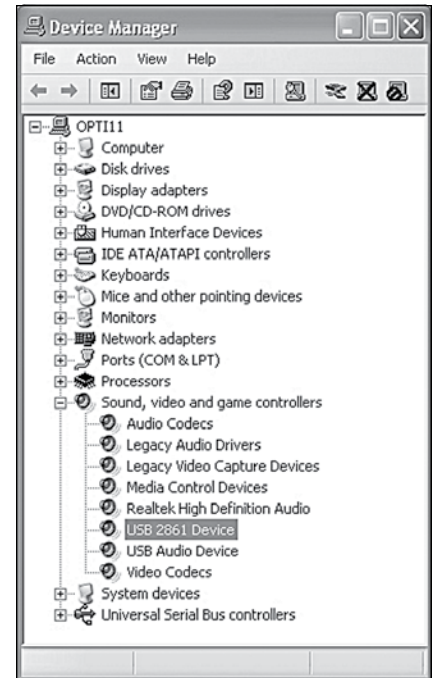
In the Device Manager click on the “Sound, video and game controllers”. You should see the “**USB 2861 Device**” listed. (**Figure 4**).

If it has a Yellow mark next to it then this means that the driver is not installed correctly. You will need to remove the driver and disconnect the Orion Video Capture device from the computer and reconnect to install the driver again.

#### Capture Software Installation & Guide

Now that the Video Capture Device driver software is installed, the capture software must also be installed.

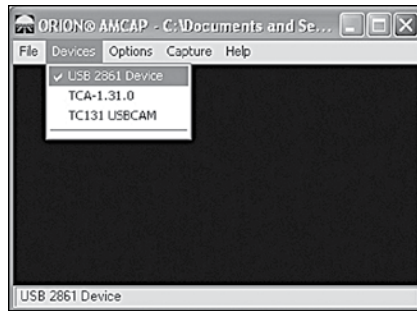
1. Return to the **Launcher** and click **Install Orion Capture Software**.
2. The **Orion AmCap Setup Wizard** appears. Click **Next**.



**Figure 4.** Device manager screen.

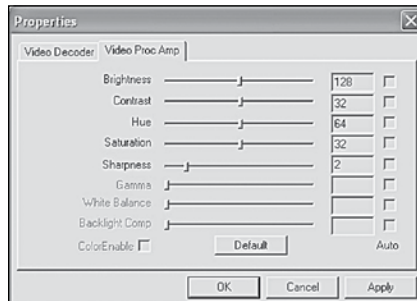


3. Select a destination folder and Click **Next**.
4. Click **Next** again to start the installation.
5. When the wizard is complete, click **close**. This has installed the capture software.
6. Open Orion AmCap from the icon on your desktop. The **Live Video Window** should appear (**Figure 5**). The software will recognize many cameras so check that **USB 2861 Device** is selected from the device menu.



**Figure 5.** The live video window.

7. Under Options menu select Video Capture Filter and select Video Decoder Tab to modify settings such as PAL/NTSC/SECAM country video standard settings. Select the Video Proc Amp Tab to modify image settings such as Brightness, Contrast, Hue, Saturation and Sharpness (**Figure 6**).



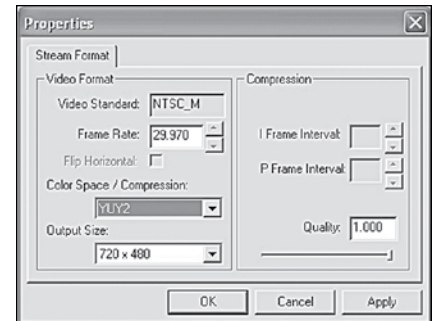
**Figure 6.** Video Capture Filter.

8. Under options menu select Video Capture Pin to modify settings such as Output Size (**Figure 7**). The maximum output size is 720 x 480.
9. Under options menu select Video Crossbar to modify video input settings based upon the video device attached to the Video Capture Device IE (**Figure 8**). The majority of devices will output standard Video Composite video signal. Higher quality can be achieved using SVideo input.

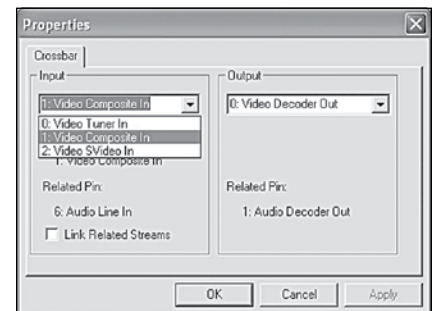
10. Select **Capture File** from the **File** menu and name your file including the AVI extension name. IE MyMovie.avi. Click Open.
11. Enter the amount of disk space to allocate as a Capture buffer for this data. Movie files need a large amount of disk space. Enter a value such as 50 Megabytes or higher. Press ok. The size of the captured data may be much higher than this value depending upon number and size of frames captured.
12. Select Set Frame Rate under the Capture menu. Check the box Use Frame Rate and type 15. Press ok.
13. Select Set Time Limit under the Capture menu. Check the box Use Time Limit and type 20. Press ok.
14. Select Start Capture under the Capture menu.
15. Press ok when you are ready to capture Images.

An AVI movie sequence of 300 frames (15 frames per second x 20 seconds) will now be recorded.

The total number of captured frames is displayed on the bottom bar. If frames are being dropped this will be displayed also. To remedy this, try increasing the capture buffer size. If this does not resolve dropping frames then the frame rate or resolution should be set to a lower value to prevent dropping of frames.




**Figure 7.** Video Capture Pin.



**Figure 8.** Video Crossbar.

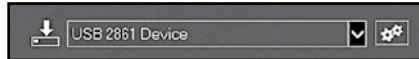


# Honestech VHS to DVD 2.0 SE Installation & Guide

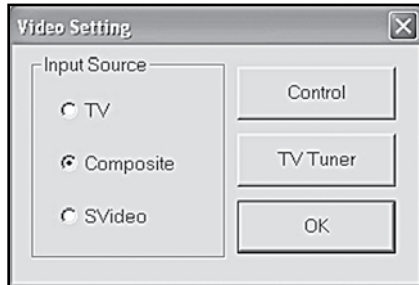
1. Return to the Launcher and click Install VHS to DVD SE.
2. The VHD to DVD SE Software Installation will start.
3. Follow on screen Installation instructions.
4. When installation is complete click the Finish button.
5. If the software is installed correctly, you should see "honestech VHS to DVD 2.0 SE" icon on your desktop.
6. Double click "honestech VHS to DVD 2.0 SE" icon on your desktop, enter your product key in the window (**Figure 9**). You can find the product key on the CD-ROM bag,
7. Select input device to be "USB 2861 Device" (**Figure 10**).
8.  Click "Video Setting" button located to the right of the input device. Select the correct input source for your device (**Figure 11**).
9. Click "Control" button to select video standard under the Video Decoder tab to modify settings such as PAL/NTSC/SECAM country video standard settings. (**Figure 12**) Select the Video Proc Amp Tab to modify image settings such as Brightness, Contrast, Hue, Saturation and Sharpness.
10. If you have connected your video output device with the Video Capture device and your computer correctly you can now watch video and record it. Before you begin recording video, select the output file format from drop down menu, recording video type, quality and recording duration time. You can also select output folder for the recorded video file.



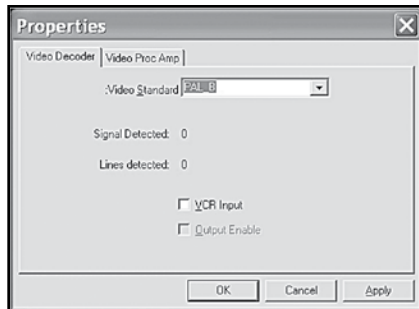
**Figure 9.** Product Key Check.



**Figure 10.** Input Device Selection.



**Figure 11.** Video Input Selection.



**Figure 12.** Video Standard Settings.

11. Click the red record button to start recording video. If you select "commercial cutting", you can cut the part of the video you don't want to save, when you want to finish, click the white stop icon, you should see the thumbnail image of the recorded file on the top right of the window.




**Figure 13.** Edit mode.

12. If you select "recording and burning" and click red record key, it will start the burning process right after recording for the designated time.
13. If you want to edit the recorded video file, select "Edit" tab to enter edit mode (**Figure 13**). Double-click the thumbnail image of the recorded file you want to edit or drag the file into the player panel and the file will play.
14. During the edit phase, you can cut out scenes from your recorded video. You can also cut your movies into multiple scenes and add storyboard transition effects between each scene. When you have multiple scenes captured, you can combine them into one continuous clip with transition effects. In order for you trim or cut part of the scene from the captured clips, you will need to create two separate clips, one before the part of the clip to be trimmed and another for the scenes after the part of the clip to be trimmed. You can even combine two separate clips into one scene using the storyboard.
15. Click the "Preview" button to preview the edited video file before saving it, and click "Merge and Save" button, you can set your video file format to be "MPEG" or "DV-AVI".
16. Click the "Burn" tab. Now, you can select output video format, and click "Option" button, you can select CD/DVD writing device, and select the disk name, and must select correct input video type, then click "OK" icon. Select your file or click "Add clips" icon to choose the other files, according to your want, you can edit the video files by "Create Menu" function. (Chapter, Select back ground image, Select a navigation button image, Select the number of clip per page, Text.)

**Notice:** VCD, SVCD, Data CD, Data DVD formats do not support "Create Menu" option.


17. Next, insert a blank CD or DVD into your CD/DVD writing device, and click "Start" icon to publish the video files.

 Click the "Help" button on the top right of the software window to read the "honestech VHS to DVD 2.0" help file.



# Blaze Video Magic 3.0 Installation & Guide

1. Return to the Launcher and click Install Blaze Video Magic 3.0.
2. The Blaze Video Magic Software Installation will start.
3. Follow on screen Installation instructions.
4. When installation is complete click the Finish button.
5. If the software is installed correctly, you should see "Blaze Video Magic" icon on your desktop.
6. Double click "Blaze Video Magic" icon on your desktop, you should see the "Register Blaze Video Magic" window (Figure 14), click the "Register" icon, enter user name, E-mail address and serial number, (You can find the serial number on the CD-ROM bag) and click "Register" icon.
7. Click "Add" button to select the source video file you want to convert, and click the "Play" button to preview and play the selected video file, click "Delete" you can delete the selected file from source file list.
8. In the "Output Format" menu, you can select output format for your video file, and click "Setting" button, you should set the output video file according to your want.
9. In the "output Path" menu, you can click "Browse" button to change the output path, and click "Location" you can quickly open the output folder and access the converted video file.
10. Click "Option" button at the right top of the main window, you can select your desired interface language.
11. Please click "Start" button to begin to convert the added file.

 Click the "Help" button on the top right of the software window to read the "Blaze Video Magic 3.0 help" file.

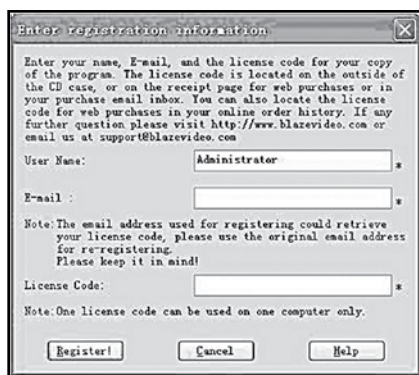


Figure 14. Registration Window.




Figure 15. Blaze Video Magic Software.

# Macintosh Installation and Operation

## Check your Mac OS X version

Orion Capture software requires Mac OS X 10.3 or later.

Please go to  → **About this Mac**.

There you will find your Mac OS version (Figure 16).

## Install Driver and Application

*Note: If you have any anti-virus software enabled, please disable it during the installation of the software.*

Insert the software CD into your CD drive.

Open the folder "EzCAP1.0.1R" and double click the file "EzCAP1.0.1R.pkg".

Follow the onscreen instructions. You may need to enter your Mac password.

Once installation has completed please restart your computer (Figure 17).

Connect the Capture Device to a USB port on your Mac, after a short while, the hardware will be installed in your computer. You now need to check that the drivers are installed correctly.

Please go to  → **About this Mac** → **More info** → **Hardware** → **USB**.

If the driver is installed correctly you should see the device listed as in Figure 18. (Vendor ID: Empia Technology, Inc)

If not then it means that the driver is not installed correctly. You need to remove the driver and disconnect the USB Video Capture from the Mac, uninstall them first and then re-install the driver and application again.



Figure 16. Mac OS X Version window.

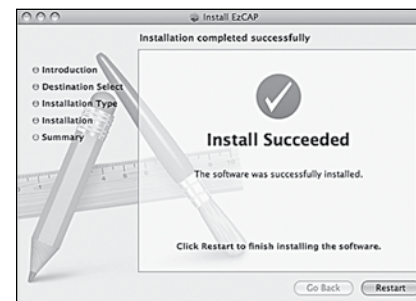


Figure 17. EzCap successful installation.

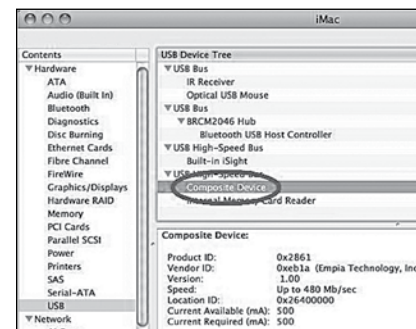


Figure 18. Checking Driver installation.



## EzCap Application Guide

Click **Go** → **Applications** → **EzCAP**, then double click **EzCAP Capture** icon.

Select **"Digitizers"** and **"EzCAP"** to select device. Next Click **"Record"** and select **"Video Settings"** on the application window. Click **Source** and select **Composite** or **S-Video** to match your video source (**Figure 19**). Select **"OK"**. You should now see the video in the video window.

Click **Record** → **Sound Settings** → **Source** → **Unknown USB Audio Device**, and set **Speaker** to **"On"**, then click **"OK"** (**Figure 20**). You should now hear the audio as your inputted audio source.

You can also click **Record** icon, and select **"Record Setup"** to set items for recording, and select **"Record"** to record the video programs.

## Uninstall the Application

Go to **Macintosh HD** → **Applications** → **EzCAP**, and delete the **"EzCAP"** folder (**Figure 21**).

Go to **Macintosh HD** → **Library** → **QuickTime** → **EzCAP.component** and delete the **"EzCAP.component"** (**Figure 22**).

Go to **Macintosh HD** → **System** → **Library** → **Extensions** → **EzCAP.kext** and delete the **"EzCAP.kext"** (**Figure 23**).

Now you finished the uninstallation application.

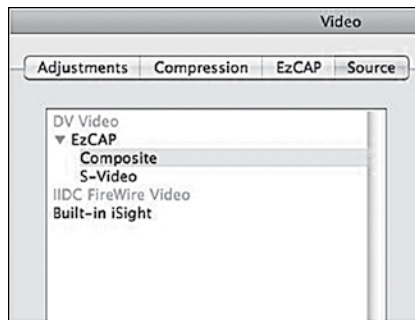


Figure 19. Video Settings.

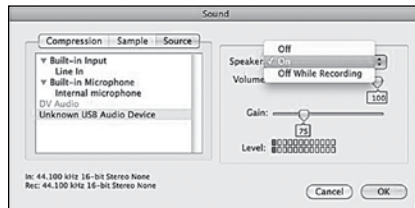


Figure 20. Sound settings.

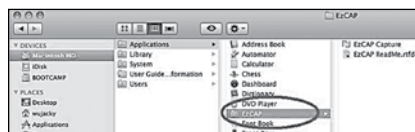


Figure 21. Uninstall Application.

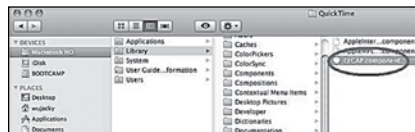


Figure 22. Uninstall Component.

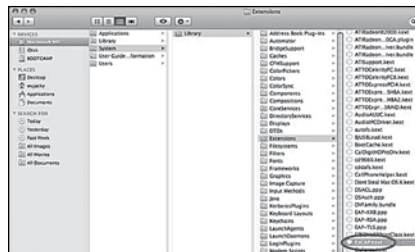


Figure 23. Uninstall extensions.

## Video Impression Installation

To start the Video Impression software installation please insert the software CD into your CD drive.

Additional online software **"Rosetta"** may need to be installed if prompted. Normally, applications intended for Mac computers based on PowerPC processors don't work on Macs based on Intel processors. But if you install Rosetta, you can use applications intended for PowerPC-based Macs.

Follow on screen instructions to install **"Rosetta"**. An internet connection will be required to download **"Rosetta"**.

Select your language for the installation and Click **Agree** → **Continue** → **Install**. Enter your name, company name and license key of software (**Figure 24**). (License key is on the CD bag)

Once successfully installed a confirmation window will appear (**Figure 25**). Click **"Close"** to finish the software installation.

## Video Impression Settings for Capturing

Click **"Go"** and select **"Applications"**, double click **"Video Impression"**.

Select **"Create a New Video"** and **"Capture from Device"** (**Figure 26**).

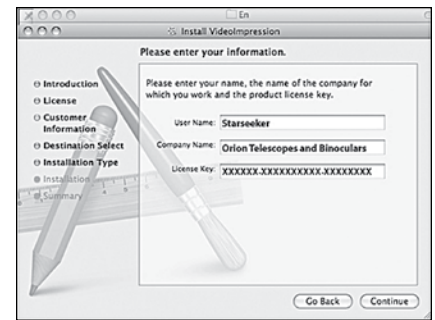


Figure 24. Video Impression install.

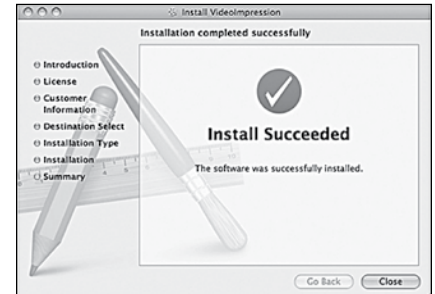


Figure 25. Successful Video Impression install.



Figure 26. Capture from Device.



Click **"Settings"** of VIDEO item.  
Click **Source** → **Composite** or **S-Video** to match your video source. And select **"OK"** (**Figure 27**). You should now see the video in the video window.

Click **“Settings”** of AUDIO item. Following window will appear, please click **Source** → **Unknown USB Audio Device**, and select **“On”** for Speaker. Click **OK** to finish Audio settings. Now you should get the sound from USB Video Capture device. (**Figure 29** and **Figure 30**)

The screenshot shows the 'Video' menu in iMovie 1.0. The menu is open, displaying a list of video source options. The 'EzCAP' option is highlighted with a grey background. The other options are 'DV Video', 'Composite', 'S-Video', 'iIDC FireWire Video', and 'Built-in iSight'.

The screenshot shows the 'Motion' window with the 'Adjust' menu open. The menu options are: Animation, Apple Intermediate Codec, Apple Pict Video, Apple VC H.263 (highlighted), BMP, Cinepak, Component Video, DV - PAL, DV/DVCPRO - NTSC, DVCPRO - PAL, DVCPRO50 - NTSC, DVCPRO50 - PAL, Graphics, and H.263. The 'Source' button is visible on the right. Below the menu, the 'Compression type:' is set to 'DVCPRO50 - PAL'. Under the 'Motion' section, 'Frames per second:' is set to 25. The 'Key frame every' checkbox is checked, and the 'Limit data rate to' checkbox is unchecked.

Sound

Compression Sample Source

▼ Built-in Input

Line In

▼ Built-in Microphone

Internal microphone

Off

Unknown USB Audio Device

Off While Recording

Gain: 75

Level: [meter]

In: 44,100 kHz 16-bit Stereo Name

Rec: 44,100 kHz 16-bit Stereo Name

Cancel OK

## Video Impression Editing

Click “**PRODUCE**” icon in EDIT panel as below. And select the device name or video format that you want, Click “**START**” to convert video file. (Figure 32)

If you want to go to capture again, please click “**MEDIA**” icon, and click “**Capture Video**” icon (Figure 33).

[illegible]

15



## Additional Software

Return to the Launcher and click “Astronomy software links” (Windows) to view additional software compatible with the Orion Video Capture Device (**Figure 34**). Select desired software to be directed to a website to download the latest software.

Mac users need to place CD in CD drive and select each piece of software to install.

For detailed information on installation and usage of additional software consult the websites of each software provider. Tutorials and user groups can be found online also.

### **RegiStax (Windows) – Free image processing software**

A popular free image processing suite of tools includes features such as alignment, stacking, optimizing and wavelet filters,

RegiStax can analyze, align, and stack thousands of images in just minutes.

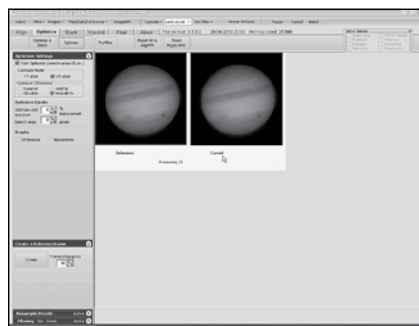
### **AViStack (Windows) – Free image processing software**

AviStack is a freeware tool that registers, stacks and processes AVI's and image sequences of astronomical objects..

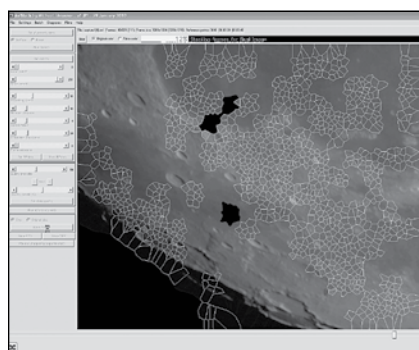
AviStack was primarily developed to process lunar images, but, it also



**Figure 34.** Astronomy Software Links for Windows users.



**Figure 35.** RegiStax.



**Figure 36.** AViStack.

works well with solar and planetary images.

### **MaximDL (Windows) – Trial/Paid CCD imaging and image processing software**

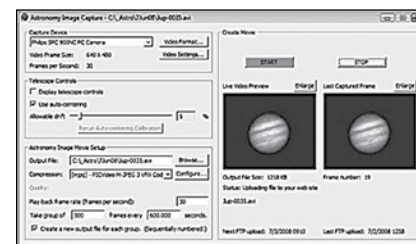
MaxIm DL is the fastest and easiest way to image the night sky. Whether you want to produce stunning portraits, collect science data, or hunt for new objects, MaxIm DL has the tools you need.

Complete observatory integration. Controls your camera, autoguider, filter wheels, focusers, camera rotator, telescope mount, and dome. ASCOM compliant.

Includes a complete image processing toolkit, including a large variety of filters, deblooming, curves, deconvolution, color tools, and much more



**Figure 37.** MaximDL.



**Figure 38.** HandyAVI.

### **HandyAVI (Windows) – Trial/Paid Suite of tools for AVI files.**

Features include time lapse, motion detection, surveillance, planetary imaging, meteor trail imaging and stop motion animation.

HandyAvi automatically captures a specified number of frames (pre-frames) immediately preceding the “trigger event” so that the (possibly) dim beginning of the meteor trail is captured.

HandyAvi continues recording data while additional motion is detected.

HandyAvi continues recording an additional number of “post-frames” after the last motion is detected.

The AVI file will contain COMPLETE meteor trails, airplane trails or lightning events.

Automatically email images of detected motion.

Automatically FTP upload captured video to a website.



### **UFO Capture (Windows) – Trial/Paid time shifted motion capture software**

Automated detection, recording and analyzer software for Meteors, Atmospheric phenomena and security.

Automatically email images of detected motion.

Automatically FTP upload captured video to a website.



### **Lynkeos (Macintosh) – Free image processing software**

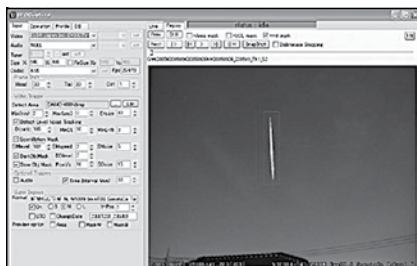
Included on CD is the Lynkeos software which is dedicated to the processing of astronomical (mainly planetary) images and movies. This program can be copied (dragged) into the applications folder or run from the CD itself. Run Lynkeos and select help to access tutorials and other general help features.

Lynkeos is free software under the GNU General Public License. Source code is available for developers (<http://lynkeos.sourceforge.net>)

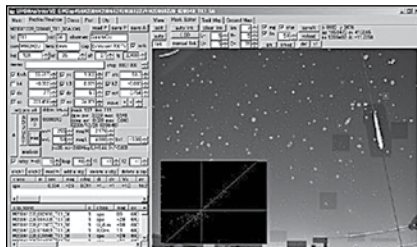
To use AVI or MPEG sequences you will need to run the FFMpeg installer.

To load or save images in FITS format you will need to go to the website <http://lynkeos.sourceforge.net>. Please go to the download area to select the latest App, Plug Ins and Libraries.

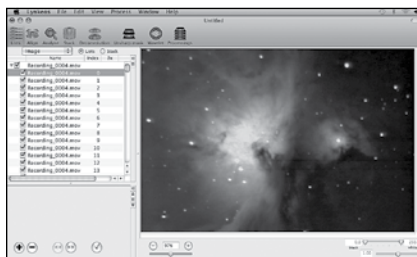
For latest software and documentation please visit: <http://lynkeos.sourceforge.net>.



**Figure 39.** UFO Capture.



**Figure 40.** UFO Analyzer.

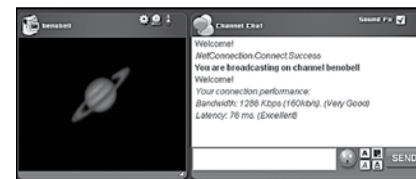


**Figure 41.** Lynkeos (Mac OS X).

### **Night Skies Network – Free Astronomy Internet Broadcasting Service (Windows and Macintosh)**

Share your views of the night sky by broadcasting live over the internet. Includes video, voice and text chat.

See members from all parts of the globe broadcasting the night skies from their home built observatories, back yards, and just about any other place where they can set up a telescope.



**Figure 42.** The Night Skies network Interface.

## Tips

### Loss of Capture Device Connection

If the computer connection to the Video Capture Device is interrupted, you will need to re-establish connection. This can happen due to several reasons; if a cable becomes unplugged, the computer “freezes”, or the software/hardware otherwise temporarily loses the data coming from the device.

To re-establish camera connection, first close all capture software on your computer. Then, unplug and re-plug the Video Capture Device into the computer's USB port. Now, re open the capture software and the **Live Video Window** should appear indicating re-established connection between camera and computer.

## Recommended Reading

(Books available through Orion, check the catalog or [www.OrionTelescopes.com](http://www.OrionTelescopes.com) for more information).

## Specifications

Interface	USB 2.0
TV System	PAL, NTSC
Resolution	NTSC 720 x 480; PAL 720 x 576
Recording Format	DVD, VCD, SVCD, AVI, MPEG
Frame Rate	NTSC 30fps, PAL 25fps
Input	RCA Composite + Audio L/R or S-Video +Audio L/R



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## **One-Year Limited Warranty**

This Orion Video Capture Device is warranted against defects in materials or workmanship for a period of one year from the date of purchase. This warranty is for the benefit of the original retail purchaser only. During this warranty period Orion Telescopes & Binoculars will repair or replace, at Orion's option, any warranted instrument that proves to be defective, provided it is returned postage paid to: Orion Warranty Repair, 89 Hangar Way, Watsonville, CA 95076. If the product is not registered, proof of purchase (such as a copy of the original invoice) is required.

This warranty does not apply if, in Orion's judgment, the instrument has been abused, mis-handled, or modified, nor does it apply to normal wear and tear. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. For further warranty service information, contact: Customer Service Department, Orion Telescopes & Binoculars, 89 Hangar Way, Watsonville, CA 95076; (800) 676-1343.



**OrionTelescopes.com**

89 Hangar Way, Watsonville, CA 95076

**Customer Support Help Line (800) 676-1343**

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